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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,021	11/19/2003	Brian J. Taylor	04AB026/YOD ALBR:0142/YOD	8807
7590	03/23/2006		EXAMINER PATEL, DHARTI HARIDAS	
Alexander M. Gerasimow Allen-Bradley Company, LLC 1201 South Second Street Milwaukee, WI 53204-2496			ART UNIT 2836	PAPER NUMBER

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/718,021

Applicant(s)

TAYLOR, BRIAN J.

Examiner

Dharti H. Patel

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) 35-50 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 34 is/are allowed.
- 6) ☒ Claim(s) 1-33 and 51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-9, 12-21, 24-33, and 51 are rejected under 35 U.S.C. 102[e] as being anticipated by Knox et al., Publication No. 2004/0252421. With respect to Claim 1, Knox discloses a controller for a machine [Fig. 1 digital programmable motor overload protector 1], comprising: a machine mountable base [Fig. 3 housing base 41; par. 0020 modular base housing portion] comprising a motor protection device [Fig. 3 the Digital Signal Processor DSP 55 in housing 46; par. 0008]; and a modular control unit [Fig. 5 microcontroller 75; par. 0104] replaceably mountable to the machine mountable base [par. 0030].

With respect to Claim 2, Knox discloses the motor protection device comprises a short-circuit protective device [Fig. 4 trip contact relay 66 is a short circuit protective device that works in conjunction with the DSP; par. 0101. Line fuses 68 also provide short circuit/overload protection par. 0102].

With respect to Claim 3, Knox discloses the short-circuit protective device comprises an instantaneous trip [par. 0101, no time delay in tripping is specified, therefore the trip occurs instantaneously].

With respect to Claim 4, Knox discloses the short-circuit protective device comprises a magnetic circuit breaker [Fig. 4 trip contact 66 comprises a magnetic coil].

With respect to Claim 5, Knox discloses the motor protection device comprises a disconnect device [par. 0101; disconnect occurs via trip contact relay 66 which controls the on/off of the users motor contactor/circuit breaker].

With respect to Claim 6, Knox discloses the disconnect device comprises a local lockout [par. 0101- failsafe trip contact control circuit 65 electrically resets the users motor contactor/circuit breaker if it senses a failure in the DSP; and par. 0095 lines 16-22- reset supervisor 64 electrically locks out the DSP if operating conditions are unreliable; par. 0147- software will lockout the trip contacts from being reset].

With respect to Claim 7, Knox discloses the modular control unit comprises an overload protection device and a contactor [Fig. 4 trip contact relay 66 is an overload protection device that works in conjunction with the DSP 55, par. 0101].

With respect to Claim 8, Knox discloses the modular control unit comprises a programmable electronic overload [the device is a digital

programmable motor overload relay; par. 0002; par. 0109 programming inputs entered through interface keypad 6].

With respect to Claim 9, Knox discloses the modular control unit comprises an electromagnetic contactor [Fig. 4 trip contact relay 66 with coil].

With respect to Claim 12, Knox discloses the modular control unit comprises a motor connection terminal [Fig. 3 trip contacts 33 connects to the users motor contactor/circuit breaker circuit].

With respect to Claim 13, Knox discloses the machine mountable base comprises a network terminal [par. 0147 lines 8-11; par 0027].

With respect to Claim 14, Knox discloses the machine mountable base comprises at least one sensor terminal [Fig. 3 terminal 36 connecting to current transformer 37; par. 0090].

With respect to Claim 15, Knox discloses the machine mountable base comprises at least one actuator terminal [Fig. 3 trip contacts 33].

With respect to Claim 16, Knox discloses a motor controller [Fig. 1 digital programmable motor overload protector 1], comprising: a motor mountable base [Fig. 3 housing base 41; par. 0020 modular base housing portion] comprising a short-circuit tripping disconnect [Fig. 4 trip contact relay 66 is a short circuit protective device that works in conjunction with the DSP 55]; and a replaceable control unit [Fig. 5 microcontroller 75; par. 0104] removably coupled to the motor mountable base.

With respect to Claim 17, Knox discloses the short-circuit tripping disconnect comprises a magnetically tripping disconnect [Fig. 4 trip contact 66 comprises a magnetic coil].

With respect to Claim 18, Knox discloses the short-circuit tripping disconnect comprises a disconnect lockout [par. 0101- disconnect occurs via trip contact relay 66 which controls the on/off of the users motor contactor/circuit breaker. Failsafe trip contact control circuit 65 electrically resets the users motor contactor/circuit breaker if it senses a failure in the DSP; and par. 0095 lines 16-22- reset supervisor 64 electrically locks out the DSP if operating conditions are unreliable; par. 0147- software will lockout the trip contacts from being reset].

With respect to Claim 19, Knox discloses the motor mountable base comprises at least one communication terminal [par 0027].

With respect to Claim 20, Knox discloses that the at least one communication terminal comprises a machine network terminal adapter to facilitate networking of a plurality of machine components [par. 0027].

With respect to Claim 21, Knox discloses the replaceable control unit comprises an adjustable overload [the device is a digital programmable motor overload relay and therefore adjustable; par. 0002; par. 0109 programming inputs entered through interface keypad 6] and a contactor [Fig. 4 trip contact relay 66].

With respect to Claim 24, Knox discloses the replaceable control unit comprises at least one monitoring device [Fig. 3 terminal 36 connecting to current transformer 37; par. 0090].

With respect to Claim 25, Knox discloses the replaceable control unit comprises at least one diagnostic device [par. 0212 Table U3- FAIL DIAG code signals internal DSP diagnostic failure].

With respect to Claim 26, Knox discloses the replaceable control unit comprises at least one manual control mechanism [par. 0147 critical failure will result in a lockout. Par. 0215 Table U6 commands UAR and OAR- manual reset is required to clear the trip. Fig. 1 button 7, par. 0015].

With respect to Claim 27, Knox discloses a controller for a machine system [Fig. 1 digital programmable motor overload protector 1], comprising: a modular control unit [Fig. 5 microcontroller 75; par. 0104] replaceably mountable to an on-machine motor protection base [Fig. 3 housing base 41; par. 0020 modular base housing portion], wherein the modular control unit comprises at least one motor control device [Fig. 5 microcontroller 75; par. 0104] operable with at least one motor protection device [Fig. 3 the Digital Signal Processor DSP 55 in housing 46; par. 0008; par. 0095 lines 3-5]; of the on-machine motor protection base.

With respect to Claim 28, Knox discloses the on-machine motor protection base [Fig. 3 housing base 41; par. 0089].

With respect to Claim 29, Knox discloses the modular control unit is selected from a group consisting of a soft start motor controller, a variable frequency motor drive, and an adjustable overload protection device [the device is a digital programmable motor overload relay and is therefore adjustable; par. 0002; par. 0109 programming inputs entered through interface keypad 6].

With respect to Claim 30, Knox discloses the modular control unit comprises a machine network terminal adapter to facilitate networking of a plurality of components of the machine system [par. 0027].

With respect to Claim 31, Knox discloses a controller for a machine system [Fig. 1 digital programmable motor overload protector 1], comprising: an on-machine base [Fig. 3 housing base 41; par. 0020 modular base housing portion] comprising a machine protection device [Fig. 3 the Digital Signal Processor DSP 55 in housing 46; par. 0008]; and a selectable control unit [Fig. 5 microcontroller 75; par. 0104] replaceably mountable to the on-machine base, wherein the on-machine base and the selectable control unit are cooperative to provide desired on-machine controllability [DSP 55 of Fig. 4 in conjunction with microcontroller 75 of Fig. 5].

With respect to Claim 32, Knox discloses the machine protection device comprises a magnetically tripping disconnect [Fig. 4 trip contact relay 66 is an magnetic trip device that works in conjunction with the DSP 55, par. 0101].

With respect to Claim 33, Knox discloses the selectable control unit is selected from a group consisting of a soft start machine controller, a variable

frequency machine drive, and an overload protection device [the device is a digital programmable motor overload relay; par. 0002; the microcontroller 75 has a primary function of protection].

With respect to Claim 51, Knox discloses a machine, comprising: a motor; and a motor controller mounted to the motor, comprising: a modular base comprising motor protection circuitry; a module control unit comprising motor control circuitry cooperatively operable with the motor protection circuitry, wherein at least one of the modular base and the modular control unit is selectively replaceable [the limitations of this claim have previously been met by the limitations of the preceding claims 1, 16, 27, and 31].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103[a] which forms the basis for all obviousness rejections set forth in this Office action:

[a] A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 10-11 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knox et al, Publication No. US 2004/0252421, in view of Hollenbeck, Patent No. 5,557,182. With respect to Claims 10 and 22, Knox teaches the controller of Claims 1 and 16 respectively, but does not teach a soft start machine controller. Knox's device is implicitly capable of controlling/protecting any motor in general [par. 0002; par 0010], including a soft start motor controller, but this is not elaborated upon in the specification.

Hollenbeck teaches a control unit that comprises a soft start machine controller [col. 12 lines 13-14].

Knox and Hollenbeck are analogous means of controlling motors. It would have been obvious to one of ordinary skill in the art at the time the invention was made to specify soft start control capability to Knox for the purpose of explicitly bringing to the users attention that Knox's device is capable of controlling/protecting all motors, including ones with soft start control. Soft start is desirable to prevent stressing the power supply as well as the motor windings from sudden loading, which is well known to shorten the lifespan of electrical equipment.

With respect to Claims 11 and 23, Knox teaches the controller of Claims 1 and Claims 16 respectively, but does not teach a variable frequency machine drive. Knox's device is implicitly capable of controlling/protecting any motor in general [par. 0002; par 0010], including a variable frequency machine drive. However, this is not elaborated upon in the specification.

Hollenbeck teaches a control unit that comprises a variable frequency machine drive [col. 4 lines 47-52].

Knox and Hollenbeck are analogous means of controlling motors. It would have been obvious to one of ordinary skill in the art at the time the invention was made to specify variable frequency capability to Knox for the purpose of explicitly bringing to the users attention that Knox's device is capable of controlling/protecting all motors, including ones with variable frequency machine drives. Variable frequency machine drives are a well known and desirable means of

controlling induction motors because this is an efficient means of control that results in less wasted power.

Allowable Subject Matter

3. Claim 34 is allowed. The following is an examiner's statement of reasons for indicating allowance of claim 34:

Claim 34 is allowable over the art of record because the prior art does not disclose a controller for a system of distributed machines that contains a modular control unit replaceably mountable to a machine mountable base, comprising control circuitry for each desired machine, and incorporating short circuit protection with a disconnect device. While Knox's device and those like it could conceivably be connected to more than one motor in parallel, it does not contain the control circuitry to monitor *each* motor/machine individually, and this feature is not anticipated or rendered obvious by the prior art of record.

Response to Arguments

4. Applicant's election with traverse of Group I, claims 1-34, 51 in the reply filed on 01/09/2006 is acknowledged. The traversal is on the ground(s) that group I which represents a single machine controller as opposed to a system control. This is not found persuasive because the two controllers are two distinctly different controllers since the single machine control could not be reasonably expected to be able to control an entire system of machines and therefore are considered distinct.

The requirement is still deemed proper and is therefore made FINAL.

Claim 35 cites a plurality of machines, which represents a system control as opposed to a single machine controller. The circuitry required to control/protect one machine is significantly less complex than the circuitry required to control/protected an entire system of machines. These two controllers are therefore two distinctly different controllers since the single machine control could not be reasonably expected to be able to control an entire system of machines and therefore are considered distinct. Also, the limitation of cooperative operability in line 7 of claim 35 suggests digital or complex communication between the base and the control unit, with class 370 being digital communication. The examiner asserts undo-burden because the two groups are in completely different classes. Specifically, the first group belongs to class 361, and the second group belongs to class 370.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Prior art [US-4769557] by Houf et al is cited for the disclosure of a modular electric load controller, with microprocessor, control interface, and protection module.
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dharti H. Patel whose telephone number is 571-272-8659. The examiner can normally be reached on 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2800, Ext. 36.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DHP
03/20/2006



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